Inspiron 15 7000 Gaming
Service Manual

Computer Model: Inspiron 15-7567
Regulatory Model: P65F
Regulatory Type: P65F001

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Before working inside your computer

NOTE: The images in this document may differ from your computer depending on the configuration you ordered.

Before you begin

1. Save and close all open files and exit all open applications.
2. Shut down your computer. Click **Start** → **Power** → **Shut down**.

   NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.
3. Disconnect your computer and all attached devices from their electrical outlets.
4. Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
5. Remove any media card and optical disc from your computer, if applicable.
6. Close the display and turn the computer over.

Safety instructions

Use the following safety guidelines to protect your computer from potential damage and ensure your personal safety.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

WARNING: Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the electrical outlet.

CAUTION: To avoid damaging the computer, ensure that the work surface is flat and clean.

CAUTION: To avoid damaging the components and cards, handle them by their edges, and avoid touching pins and contacts.

CAUTION: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that shipped with the product or at www.dell.com/regulatory_compliance.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

CAUTION: When you disconnect a cable, pull on its connector or on its pull tab, not on the cable itself. Some cables have connectors with locking tabs or thumb-screws that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending any connector pins. When connecting cables, ensure that the ports and connectors are correctly oriented and aligned.

CAUTION: Press and eject any installed card from the media-card reader.

Recommended tools

The procedures in this document may require the following tools:

- Philips screwdriver
- Torx #8 (T8) screwdriver
- Plastic scribe

Screw list

The following table provides the list of screws that are used for securing different components to the palm rest and keyboard assembly.

Table 1. Screw list

Component	Secured to	Screw type	Quantity	Screw image
Battery	Computer base	M2x4 T8	5	
Hard drive	Computer base	M2.5x3 Ladder type	4	
Hard-drive bracket	Hard drive	M3x3	4	
Solid-state drive	Computer base	M2x3	1	
Wireless-card bracket	Computer base	M2x3	1	
Rear cover	Computer base	M2x3 Big head	4	
Palm rest and keyboard assembly	Computer base	M2.5x5	15	
Palm rest and keyboard assembly	Computer base	M2.5x8	2	
I/O board	Computer base	M2x3	2	
Fan	Computer base	M2x3	6	
Power-adapter port bracket	Computer base	M2x3	4	

Component	Secured to	Screw type	Quantity	Screw image
Status-light board	Computer base	M2x3	2	
Speaker	Computer base	M2x3 Big head	6	
Power-button board	Palm rest and keyboard assembly	M2x2.5	2	
Touch pad	Palm rest and keyboard assembly	M2x2	4	
Display-cable bracket	System board	M2x3	1	
System board	Computer base	M2x3	2	
Heat sink	System board	M2x3	6	
Display assembly	Computer base	M2x3	2	
Display assembly	Computer base	M2.5x5	2	
Display assembly	Computer base	M2.5x5	2	
Display hinges	Display back-cover	M2.5x2.5	8	
Display panel	Display back-cover	M2x2.5	4	

After working inside your computer

CAUTION: Leaving stray or loose screws inside your computer may severely damage your computer.

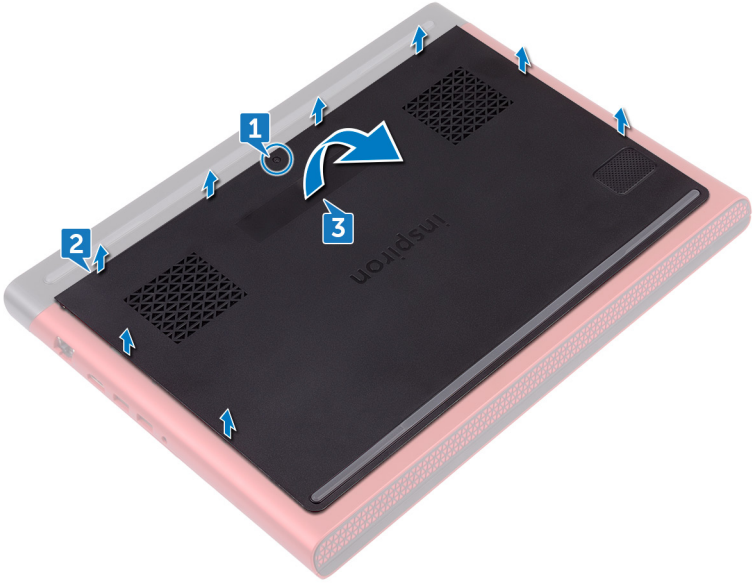
1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other parts that you removed before working on your computer.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

Removing the base cover

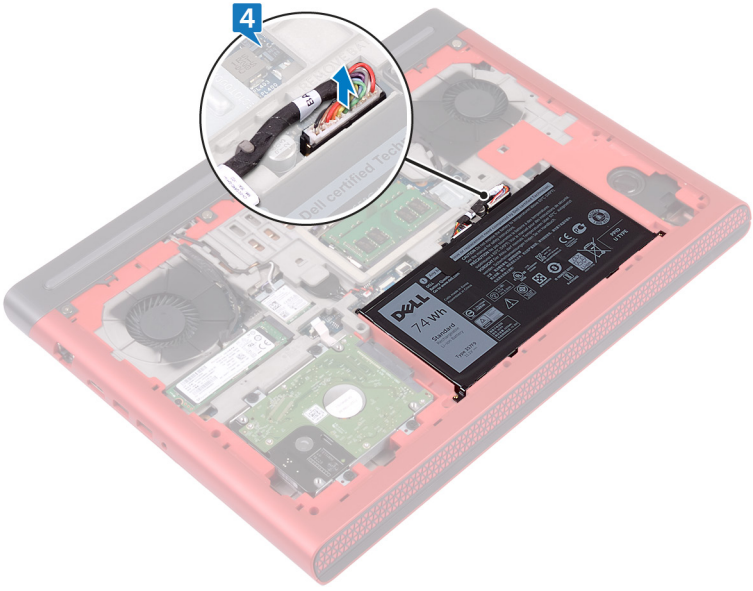
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Loosen the captive screw that secures the base cover to the computer base.
2. Using your fingertips, gently pry the base cover to release the tabs from the slots on the computer base.
3. Lift the base cover off the computer base.



4 Disconnect the battery cable from the system board.



Replacing the base cover

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Procedure

1. Connect the battery cable to the system board.
2. Slide the tabs on the base cover into the slots on the computer base and snap the base cover into place.
3. Tighten the captive screw that secures the base cover to the computer base.

Removing the battery

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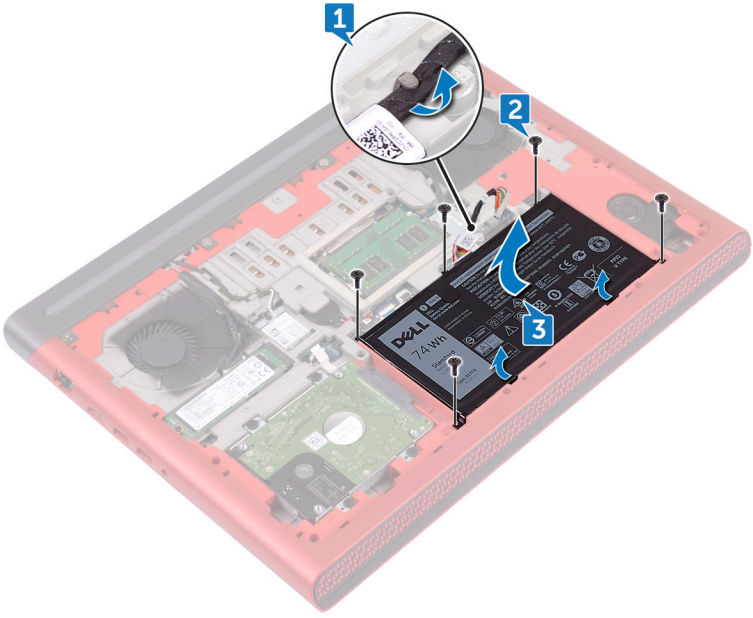
Prerequisites

Remove the base cover.

Procedure

1. Remove the battery cable from the routing guide on the computer base.
2. Remove the five screws (M2x4 T8) that secure the battery to the computer base.

3 Lift the battery at an angle off the computer base.



4 Turn the computer over, open the display, and press and hold the power button for five seconds to ground the system board.

Replacing the battery

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Procedure

1. Slide the battery in the slot on the computer base and align the screw holes on the battery with the screw holes on the computer base.
2. Replace the five screws (M2x4 T8) that secure the battery to the computer base.
3. Route the battery cable through the routing guides on the computer base.

Post-requisites

Replace the base cover.

Removing the memory modules

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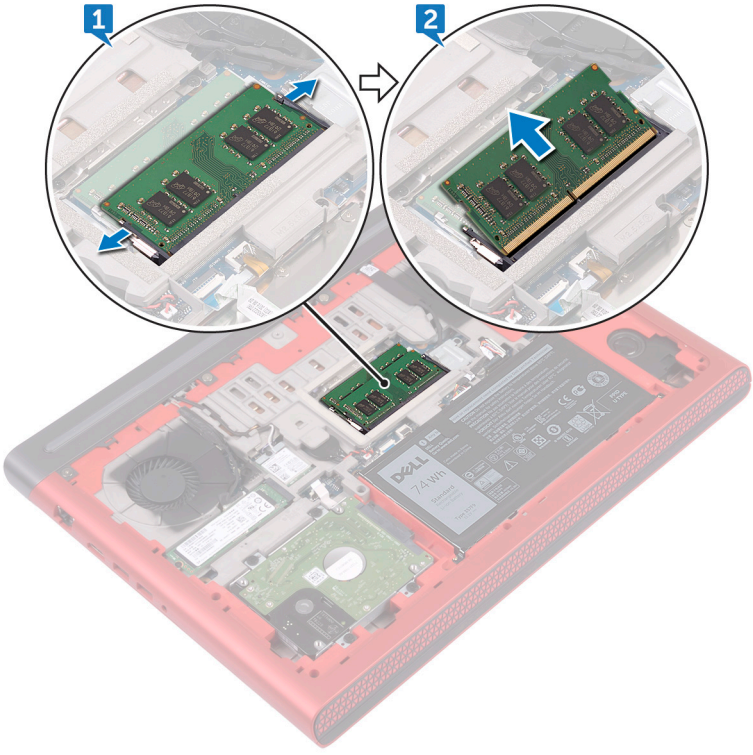
Prerequisites

Remove the base cover.

Procedure

1 Use your fingertips to carefully spread apart the securing-clips on each end of the memory-module slot until the memory module pops up.

2 Remove the memory module from the memory-module slot.



Replacing the memory modules

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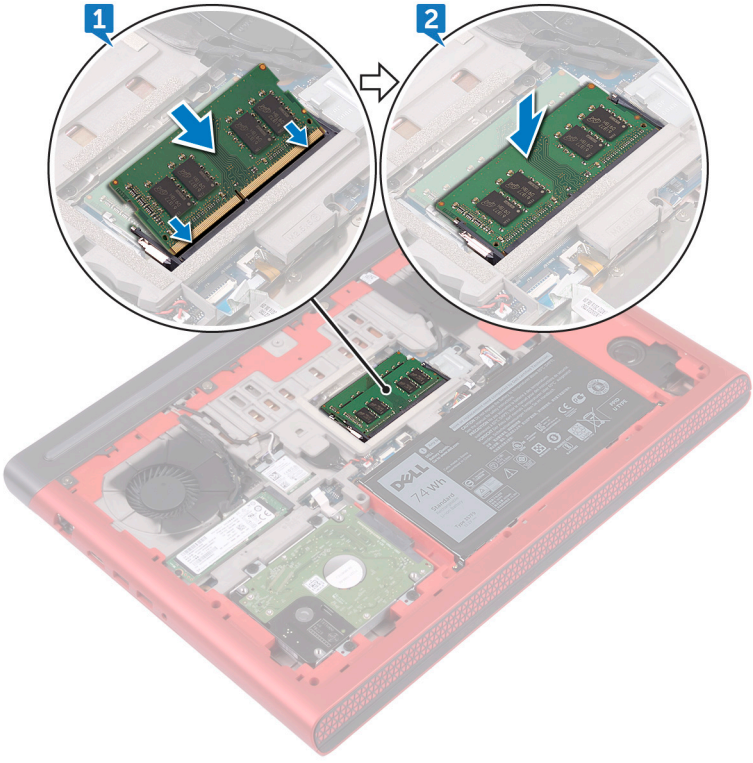
Procedure

1 Align the notch on the memory module with the tab on the memory-module slot and slide it firmly into the slot at an angle.

2 Press the memory module down until it clicks into place.

NOTE: If you do not hear the click, remove the memory module and reinstall it.



Post-requisites

Replace the base cover.

Removing the hard drive

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CAUTION: Hard drives are fragile. Exercise care when handling the hard drive.

CAUTION: To avoid data loss, do not remove the hard drive while the computer is in sleep or on state.

Prerequisites

Remove the base cover.

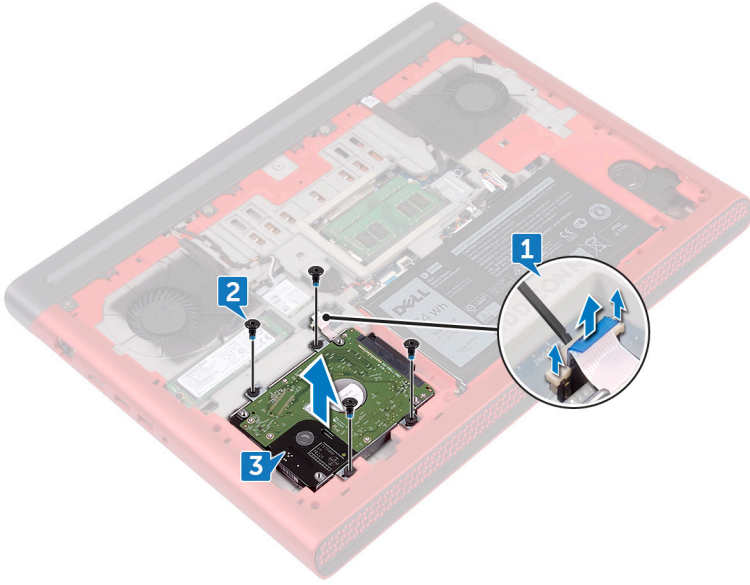
Procedure

CAUTION:

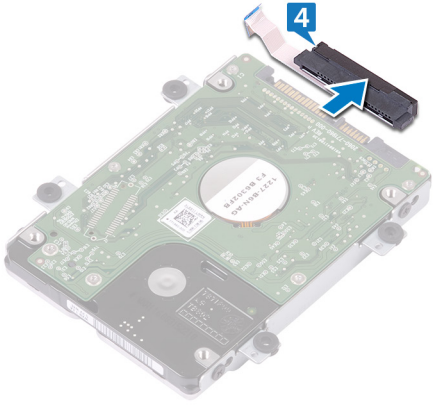
The latch on the hard-drive locking connector is fragile. Pulling the latch forcefully may damage the hard-drive locking connector. Exercise care when handling the latch on the hard-drive locking connector.

1. Using a plastic scribe, lift the latch and use the pull tab to disconnect the hard-drive cable from the system board.
2. Remove the four screws (M2.5x3 Ladder type) that secure the hard-drive assembly to the computer base.

3 Lift the hard-drive assembly, along with its cable, off the computer base.

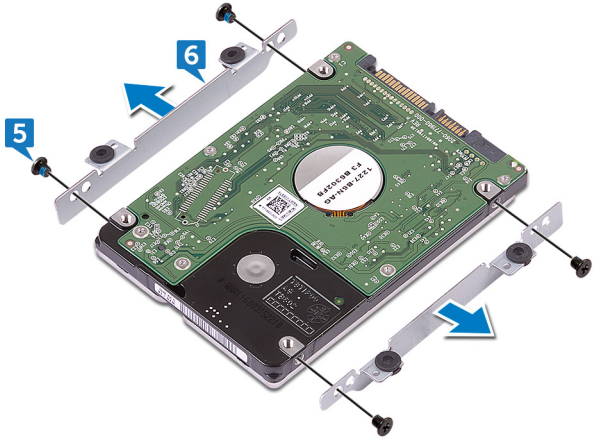


4 Disconnect the interposer from the hard-drive assembly.



5 Remove the four screws (M3x3) that secure the hard-drive bracket to the hard drive.

6 Remove the hard-drive bracket off the hard drive.



Replacing the hard drive

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CAUTION: Hard drives are fragile. Exercise care when handling the hard drive.

Procedure

1. Align the screw holes on the hard-drive bracket with the screw holes on the hard drive.
2. Replace the four screws (M3x3) that secure the hard-drive bracket to the hard drive.
3. Connect the interposer to the hard-drive assembly.
4. Align the screw holes on the hard-drive assembly with the screw holes on the computer base.
5. Replace the four screws (M2.5x3 Ladder type) that secure the hard-drive assembly to the computer base.
6. Connect the hard-drive cable to the system board and close the latch to secure the hard-drive cable.

Post-requisites

Replace the base cover.

Removing the solid-state drive

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CAUTION: Solid-state drives are fragile. Exercise care when handling the solid-state drive.

CAUTION: To avoid data loss, do not remove the solid-state drive while the computer is in sleep or on state.

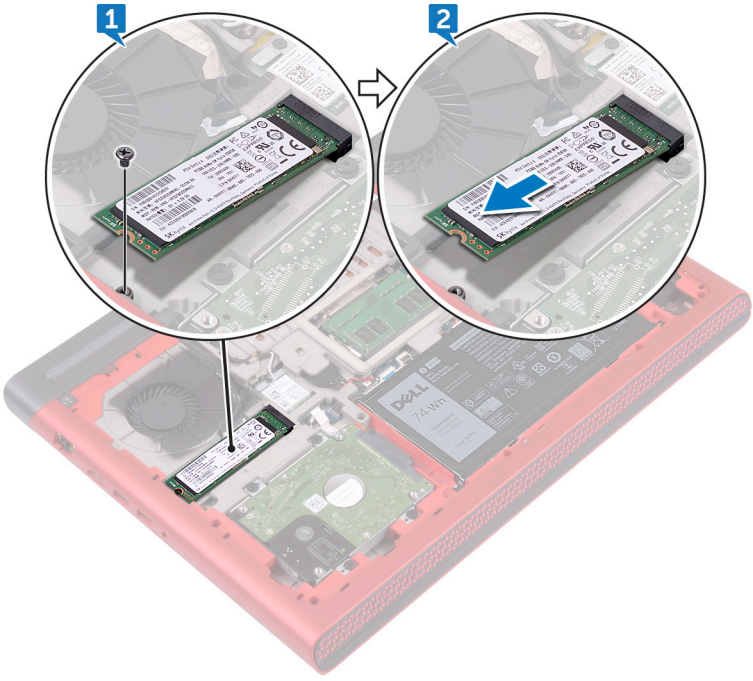
Prerequisites

Remove the base cover.

Procedure

1 Remove the screw (M2x3) that secures the solid-state drive to the computer base.

2 Slide and remove the solid-state drive from the solid-state drive slot.



Replacing the solid-state drive

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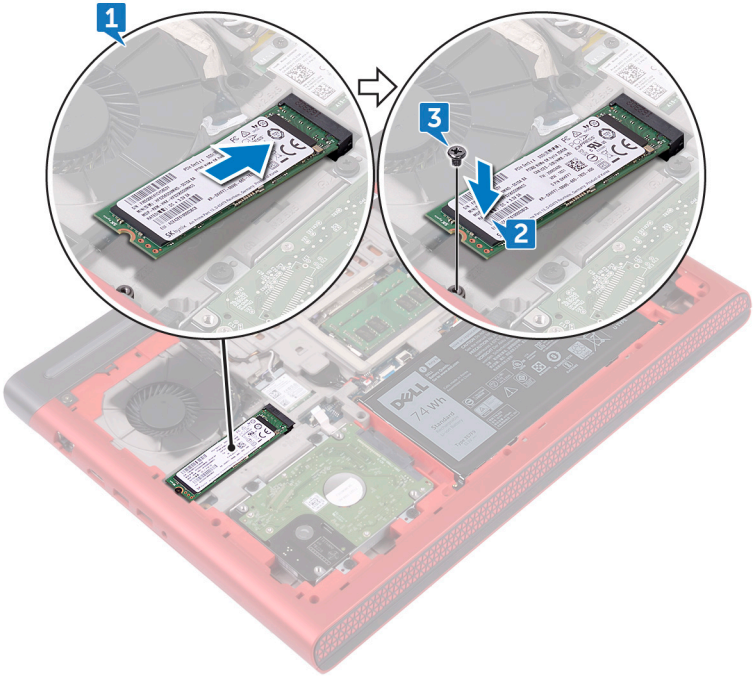
CAUTION: Solid-state drives are fragile. Exercise care when handling the solid-state drive.

Procedure

1. Align the notch on the solid-state drive with the tab on the solid-state drive slot and slide the solid-state drive into the solid-state drive slot.
2. Press the other end of the solid-state drive to align the screw hole on the solid-state drive with the screw hole on the computer base.

3 Replace the screw (M2x3) that secures the solid-state drive to the computer base.



Post-requisites

Replace the base cover.

Removing the wireless card

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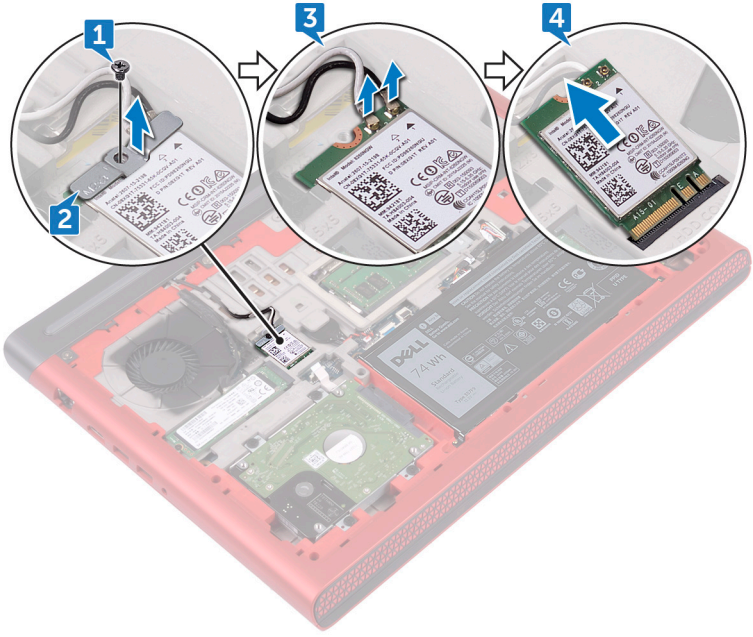
Prerequisites

Remove the base cover.

Procedure

1. Remove the screw (M2x3) that secures the wireless-card bracket to the to the wireless card and system board.
2. Remove the wireless-card bracket from the wireless card.
3. Disconnect the antenna cables from the wireless card.

4 Slide and remove the wireless card from the wireless-card slot.



Replacing the wireless card

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Procedure

CAUTION: To avoid damage to the wireless card, do not place any cables under it.

1. Align the notch on the wireless card with the tab on the wireless-card slot.
2. Slide the wireless card at an angle into the wireless-card slot.
3. Connect the antenna cables to the wireless card.

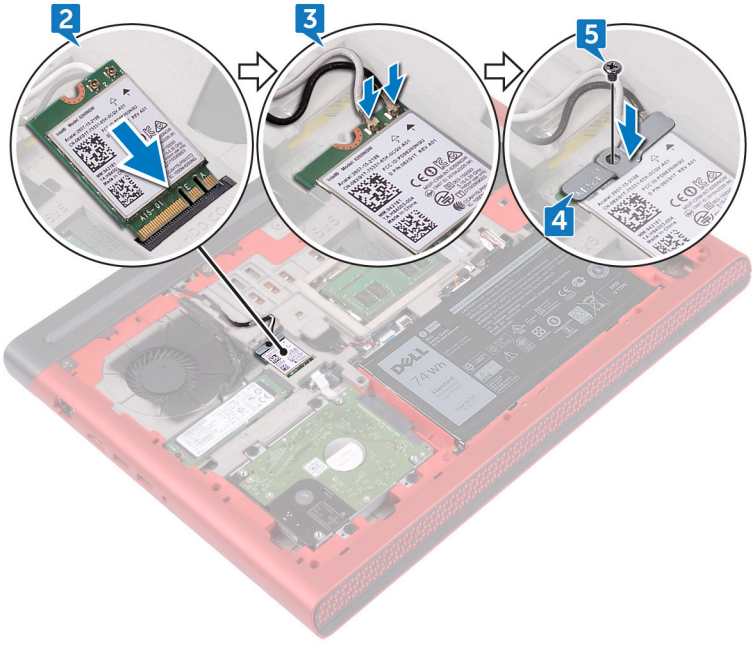
   The following table provides the antenna-cable color scheme for the wireless card supported by your computer.

   Table 2. Antenna-cable color scheme

Connectors on the wireless card	Antenna-cable color
Main (white triangle)	White
Auxiliary (black triangle)	Black

4. Align the screw hole on the wireless-card bracket with the screw hole on the wireless card and the system board.

5 Replace the screw (M2x3) that secures the wireless-card bracket to the wireless card and system board.



Post-requisites

Replace the base cover.

Removing the coin-cell battery

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CAUTION: Removing the coin-cell battery resets the BIOS setup program's settings to default. It is recommended that you note the BIOS setup program's settings before removing the coin-cell battery.

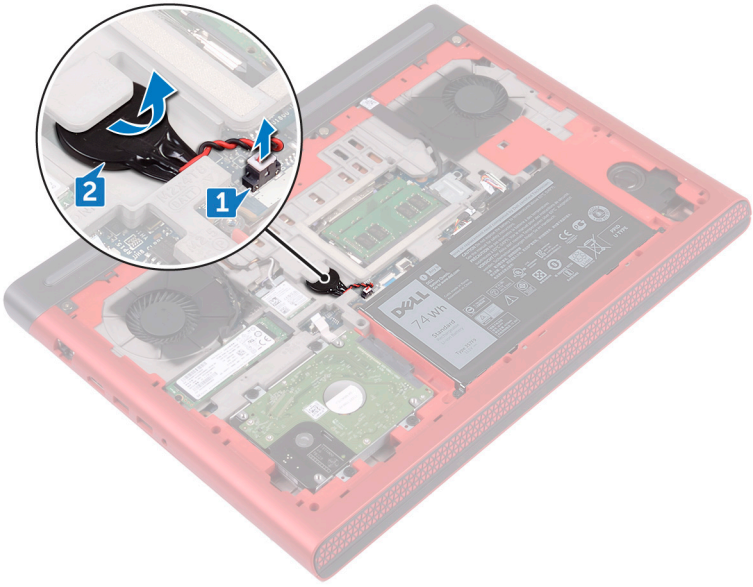
Prerequisites

Remove the base cover.

Procedure

1 Disconnect the coin-cell battery cable from the system board.

2 Peel off the coin-cell battery from the battery socket on the computer base.



Replacing the coin-cell battery

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Procedure

1. Adhere the coin-cell battery into the battery socket on the computer base.
2. Connect the coin-cell battery cable to the system board.

Post-requisites

Replace the base cover.

Removing the rear cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

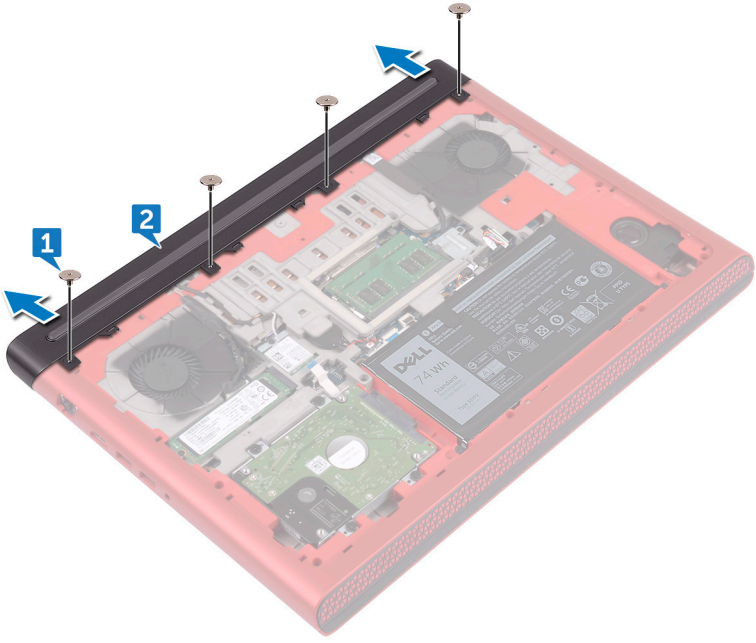
Prerequisites

Remove the base cover.

Procedure

1 Remove the four screws (M2x3 Big head) that secure the rear cover to the computer base.

2 Slide and remove the rear cover from the computer base.



Replacing the rear cover

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Procedure

1. Slide the tabs on the rear cover into the slots on the computer base and snap the rear cover into place.
2. Align the screw holes on the rear cover with the screw holes on the computer base.
3. Replace the four screws (M2x3 Big head) that secure the rear cover to the computer base.

Post-requisites

Replace the base cover.

Removing the palm rest and keyboard assembly

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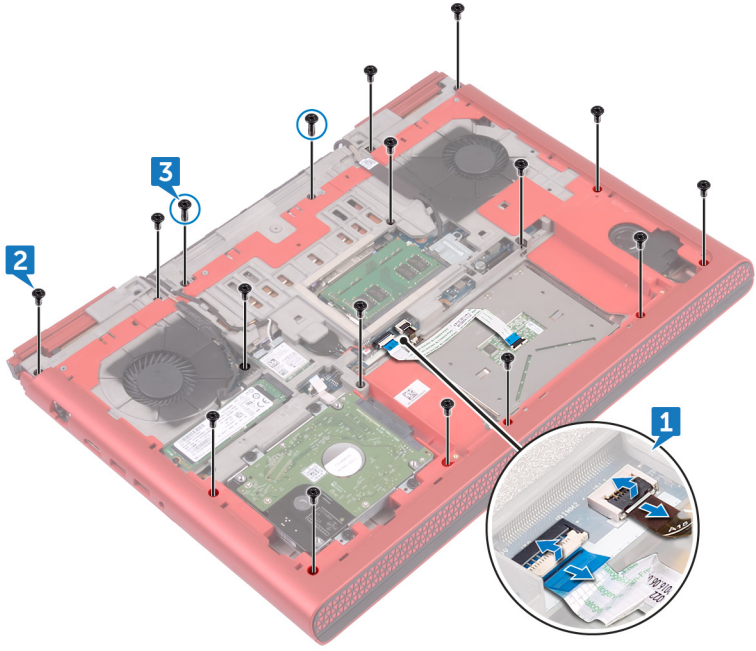
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.

Procedure

1. Open the latches and disconnect the touch-pad cable and keyboard-backlit cable from the system board.
2. Remove the 15 screws (M2.5x5) that secure the palm rest and keyboard assembly to the computer base.

3 Remove the two screws (M2.5x8) that secure the palm rest and keyboard assembly to the computer base.



4 Turn the computer over and open the display.

5 Using a plastic scribe, release the tabs on palm rest and keyboard assembly from the slots on the computer base.

6 Lift the palm rest and keyboard assembly at an angle.

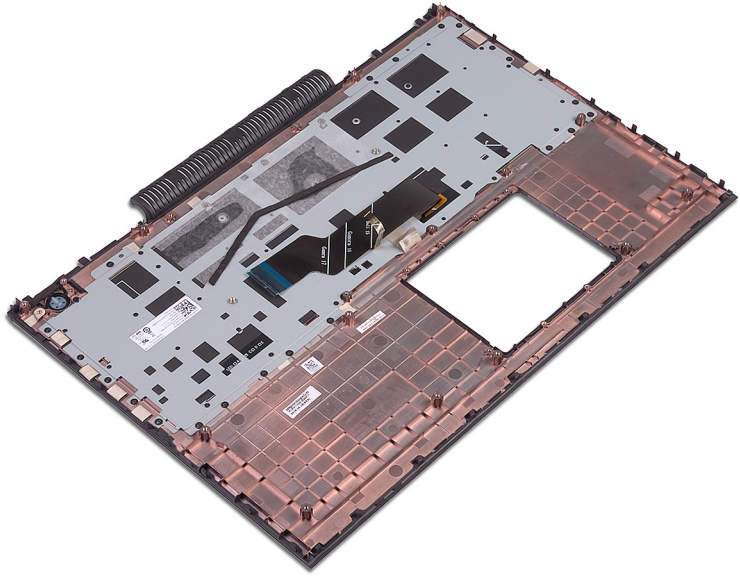
7 Open the latches and disconnect the keyboard cable and the power-button board cable from the system board.

8 Lift the palm rest and keyboard assembly off the computer base.

9 Remove the power-button board.

10 Remove the touch pad.

11 After performing all the above steps, you are left with the palm rest and keyboard assembly.



Replacing the palm rest and keyboard assembly

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Procedure

1. Replace the touch pad.
2. Replace the power-button board.
3. Align and place the palm rest and keyboard assembly on the computer base.
4. Slide the keyboard cable and the power-button board cable into the connectors on the system board and close the latches to secure the cables.
5. Press down the edges of the palm rest and keyboard assembly and snap it into place.
6. Close the display and turn the computer over.
7. Replace the 15 screws (M2.5x5) that secure the palm rest and keyboard assembly to the computer base.
8. Replace the two screw (M2.5x8) that secure the palm rest and keyboard assembly to the computer base.
9. Slide the touch-pad cable and the keyboard-backlit cable into the connectors on the system board and close the latches to secure the cables.

Post-requisites

1. Replace the rear cover.
2. Replace the battery.
3. Replace the base cover.

Removing the I/O board

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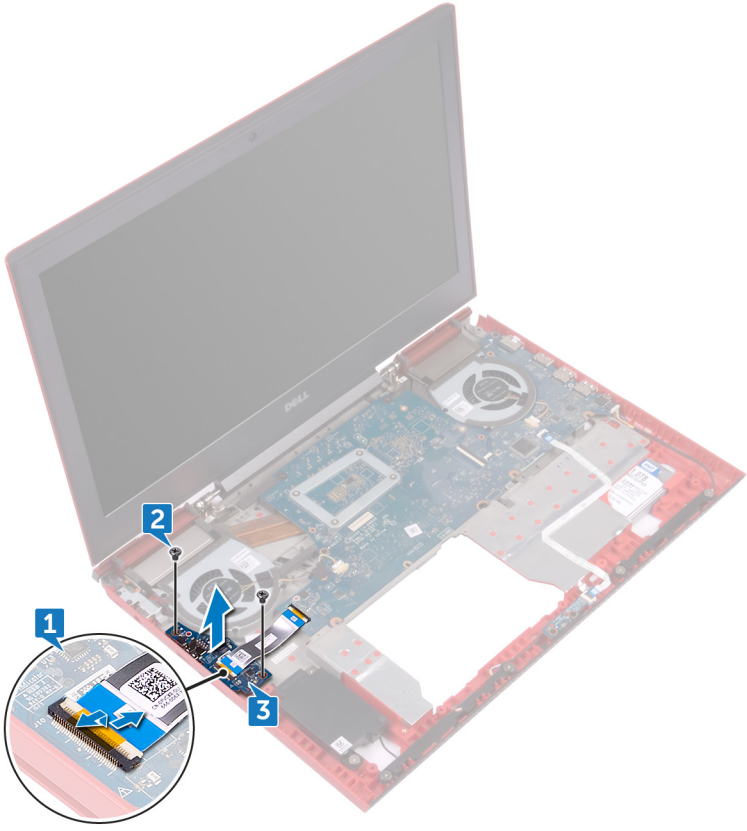
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".

Procedure

1. Open the latch and disconnect the I/O-board cable from the I/O board.
2. Remove the two screws (M2x3) that secure the I/O board to the computer base.

3 Lift the I/O board off the computer base.



Replacing the I/O board

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Procedure

1. Align the screw holes on the I/O board with the screw holes on the computer base.
2. Replace the two screws (M2x3) that secures the I/O board to the computer base.
3. Slide the I/O-board cable into the connector on the I/O board and close the latch to secure the cable.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the rear cover.
3. Replace the battery.
4. Replace the base cover.

Removing the fans

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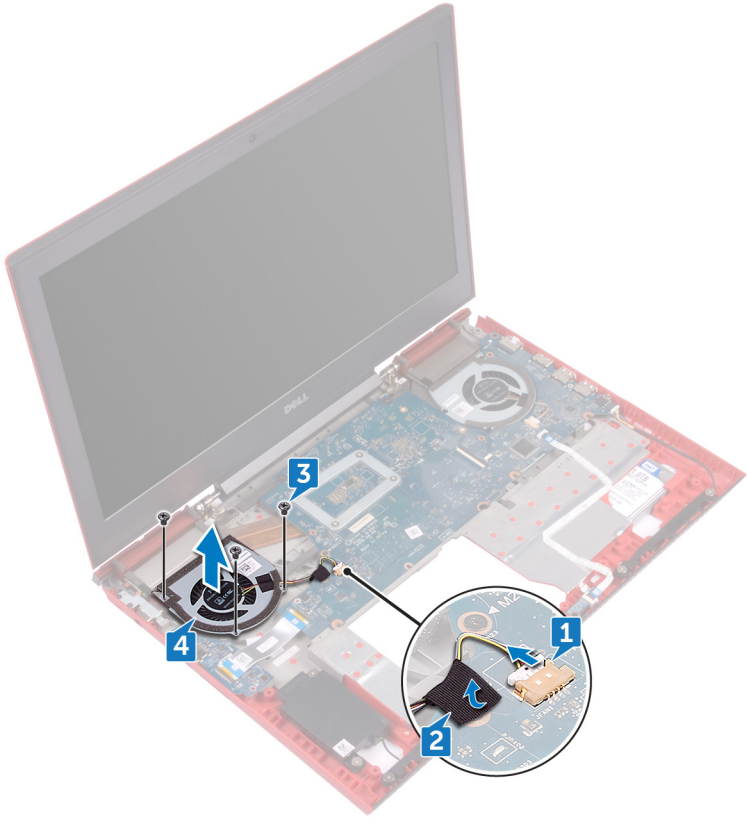
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".

Procedure

1. Disconnect the left-fan cable from the system board.
2. Peel off the tape that secures the left-fan cable to the system board.
3. Remove the three screws (M2x3) that secure the left fan to the system board.

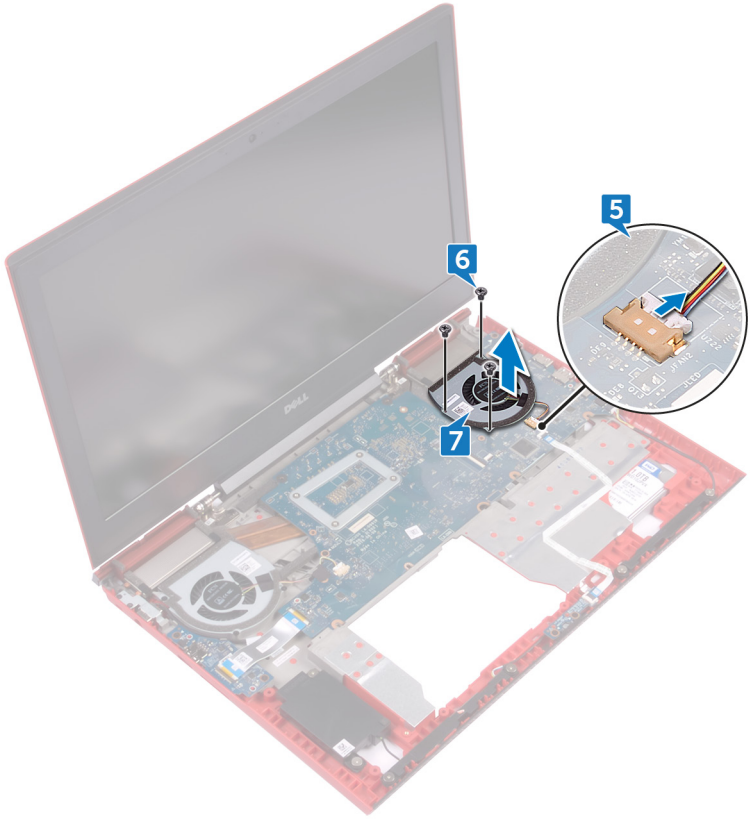
4 Lift the left fan, along with its cable, off the computer base.



5 Disconnect the right-fan cable from the system board.

6 Remove the three screws (M2x3) that secure the right fan to the system board.

7 Lift the right fan, along with its cable, off the computer base.



Replacing the fans

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Procedure

1. Align the screw holes on the left fan with the screw holes on the computer base.
2. Replace the three screws (M2x3) that secure the left fan to the computer base.
3. Connect the left-fan cable to the system board.
4. Adhere the tape that secures the left-fan cable to the system board.
5. Align the screw holes on the right fan with the screw holes on the computer base.
6. Replace the three screws (M2x3) that secure the right fan to the computer base.
7. Connect the right-fan cable to the system board.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the rear cover.
3. Replace the battery.
4. Replace the base cover.

Removing the status-light board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

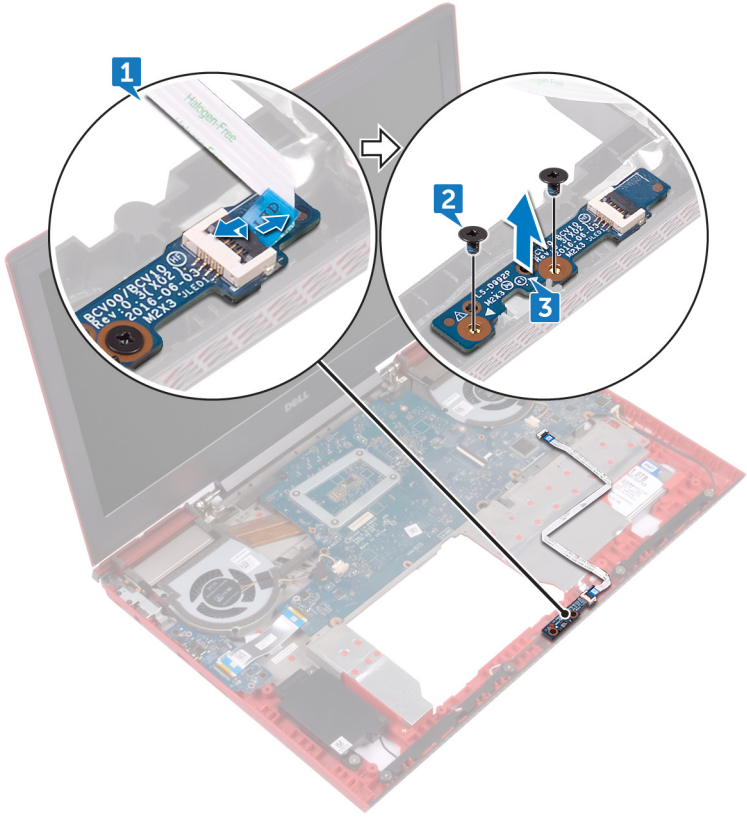
1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".

Procedure

NOTE: The status-light board includes an LED indicator for power and battery-status light/hard-drive activity light.

1. Open the latch and disconnect the status-light board cable from the status light board.
2. Remove the two screws (M2x3) that secure the status-light board to the computer base.

3 Lift the status-light board off the computer base.



Replacing the status-light board

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Procedure

1. Align the screw holes on the status-light board with the screw holes on the computer base.
2. Replace the two screws (M2x3) that secure the status-light board to the computer base.
3. Slide the status-light board cable into the connector on the status-light board and close the latch to secure the cable.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the rear cover.
3. Replace the battery.
4. Replace the base cover.

Removing the speakers

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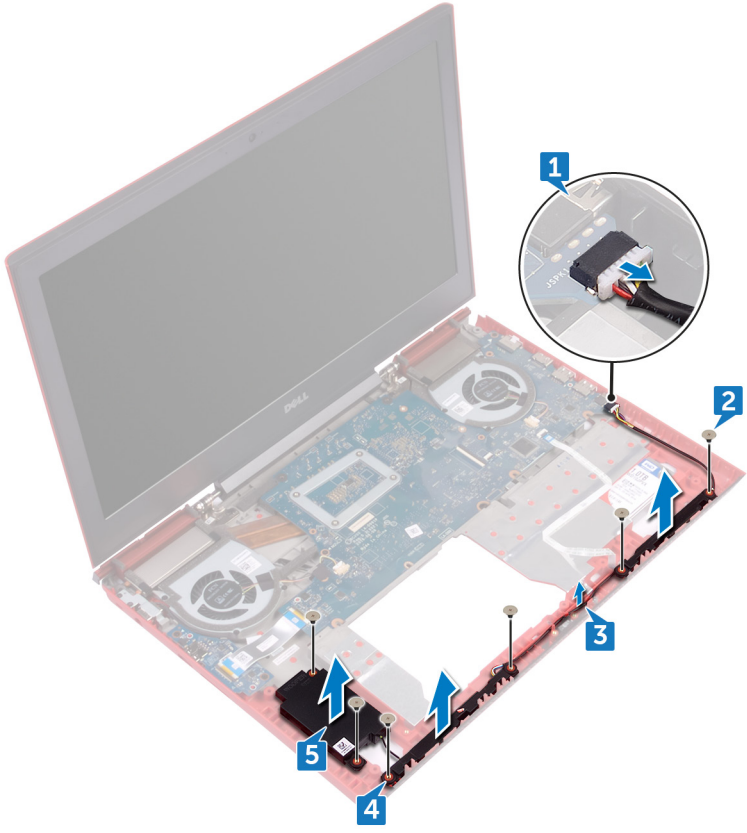
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
5. Remove the status-light board.

Procedure

1. Disconnect the speaker cable from the system board.
2. Remove the six screws (M2x3 Big head) that secure the speakers and woofer to the computer base.
3. Note the routing of the speaker cable and remove the speaker cable from the routing guides on the computer base.
4. Note the position of the rubber grommets before lifting the speakers.

5 Remove the speakers from the alignment posts and lift the speakers and woofer, along with the cable, off the computer base.



Replacing the speakers

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Procedure

NOTE: The rubber grommets may get pushed out while replacing the speaker. Ensure that the rubber grommets are in their position after placing the speaker on the system board.

1. Using the alignment posts, place the speakers and woofer on the computer base.
2. Route the speaker cable through the routing guides on the computer base.
3. Replace the six screws (M2x3 Big head) that secure the speakers and woofer to the computer base.
4. Connect the speaker cable to the system board.

Post-requisites

1. Replace the status-light board.
2. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
3. Replace the rear cover.
4. Replace the battery.
5. Replace the base cover.

Removing the power-button board

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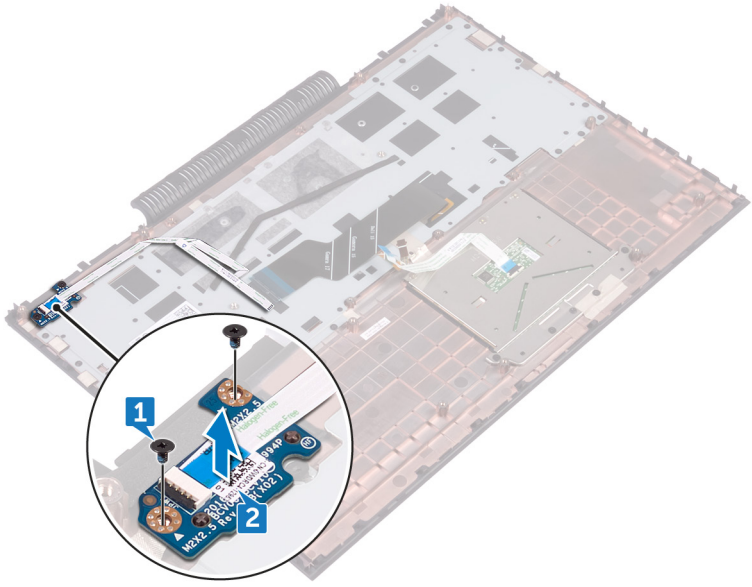
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".

Procedure

1. Remove the two screws (M2x2.5) that secure the power-button board to the palm rest and keyboard assembly.

2 Lift the power-button board, along with the cable, off the palm rest and keyboard assembly.



Replacing the power-button board

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Procedure

1. Align the screw holes on the power-button board with the screw holes on the palm rest and keyboard assembly.
2. Replace the two screws (M2x2.5) that secure the power-button board to the palm rest and keyboard assembly.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the rear cover.
3. Replace the battery.
4. Replace the base cover.

Removing the touch pad

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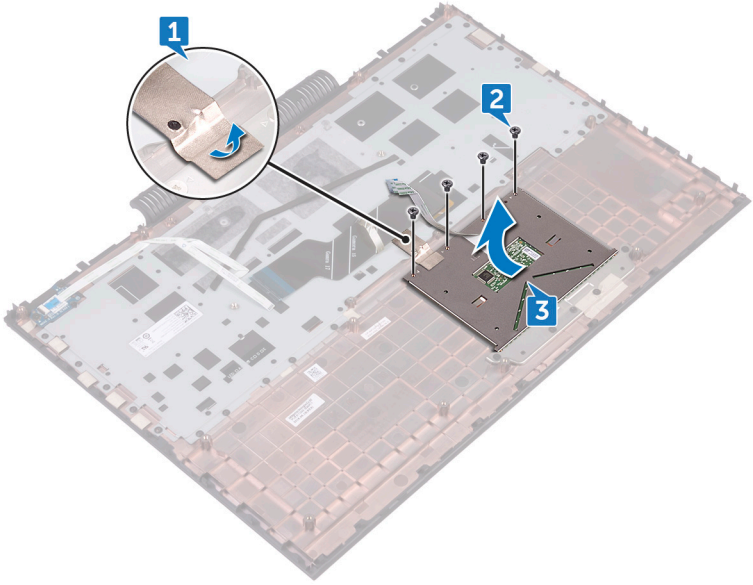
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly.

Procedure

1. Peel off the tape that secures the touch pad to the palm rest and keyboard assembly.
2. Remove the four screws (M2x2) that secure the touch pad to the palm rest and keyboard assembly.

3 Lift the touch pad, along with the cable, at an angle from under the touch-pad bracket off the palm rest and keyboard assembly.



Replacing the touch pad

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Procedure

1. Slide the touch pad under the touch-pad bracket.

   NOTE: Ensure that the touch pad is aligned with the guides available on the palm rest and keyboard assembly, and the gap on either sides of the touch pad is equal.

2. Align the screw holes on the touch pad with the screw holes on the palm rest and keyboard assembly.
3. Replace the four screws (M2x2) that secure the touch pad to the palm rest and keyboard assembly.
4. Adhere the tape that secures the touch pad to the palm rest and keyboard assembly.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the rear cover.
3. Replace the battery.
4. Replace the base cover.

Removing the system board

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NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.

NOTE: Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.

NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect the cables correctly after you replace the system board.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the memory modules.
5. Remove the solid-state drive.
6. Remove the wireless card.
7. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
8. Remove the fans.

Procedure

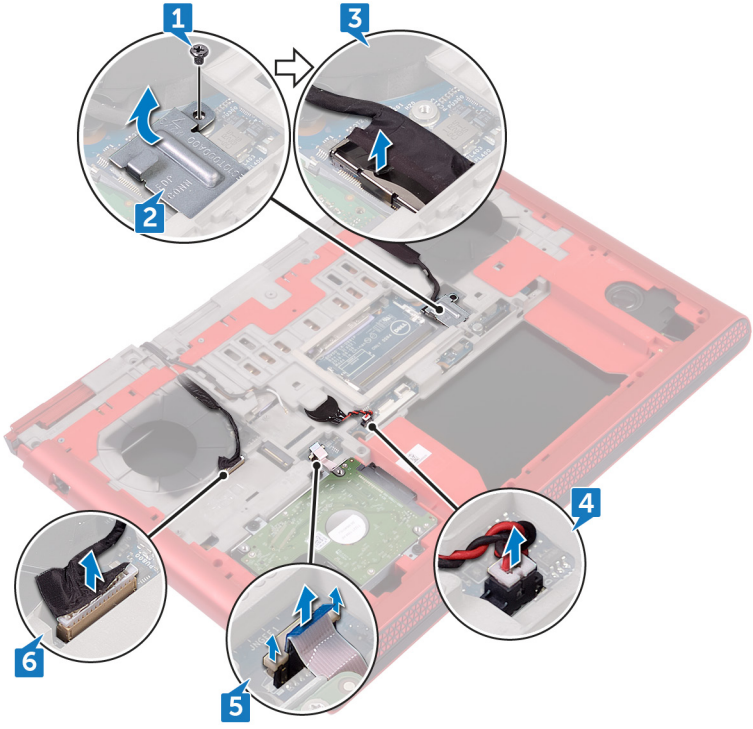
1. Remove the screw (M2x3) that secures the display-cable bracket to the system board.
2. Lift the display-cable bracket off the system board.

3 Using the pull-tab, disconnect the display cable from the system board.

4 Disconnect the coin-cell battery cable from the system board.

5 Using the pull-tab, disconnect the hard-drive cable from the system board.

6 Using the pull tab, disconnect the camera cable from the system board.

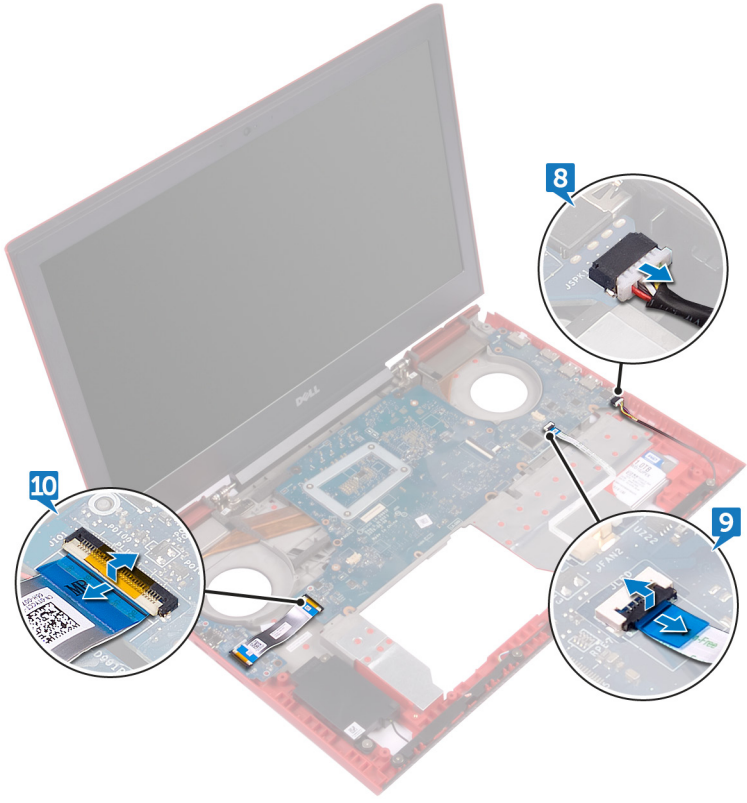


7 Turn the computer over and open the display as far as possible.

8 Disconnect the speaker cable from the system board.

9 Open the latch and disconnect the status-light board cable from the system board.

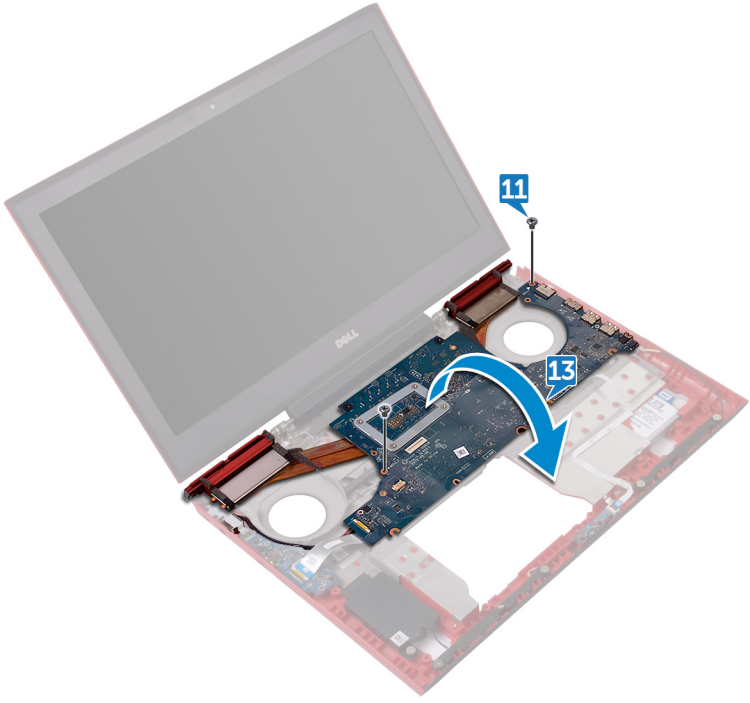
10 Open the latch and disconnect the I/O board cable from the system board.



11 Remove the two screws (M2x3) that secure the system board to the computer base.

12 Gently release the ports on the system board from the slots on the computer base.

13 Lift the system board at an angle and turn the system board over.



14 Disconnect the power-adapter port cable from the system board.

15 Remove the heat sink.

Replacing the system board

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NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.

NOTE: Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.

Procedure

1. Replace the heat sink.
2. Connect the power-adapter port cable to the system board.
3. Turn the system board over.
4. Slide the ports on the system board into the slots on the computer base and align the screw holes on the system board with the screw holes on the computer base.
5. Replace the two screws (M2x3) that secure the system board to the computer base.
6. Slide the I/O-board cable and status-light board cable into their respective connectors on the system board and close the latches to secure the cables.
7. Connect the speaker cable to the system board.
8. Close the display and turn the computer over.
9. Connect the camera cable, hard-drive cable, coin-cell battery cable and display cable to the system board.
10. Align the screw hole on the display-cable bracket with the screw hole on the system board.
11. Replace the screw (M2x3) that secures the display-cable bracket to the system board.

Post-requisites

1. Replace the fans.
2. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
3. Replace the wireless card.
4. Replace the solid-state drive.
5. Replace the memory modules.
6. Replace the rear cover.
7. Replace the battery.
8. Replace the base cover.

Removing the heat sink

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WARNING: The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.

CAUTION: For maximum cooling of the processor, do not touch the heat transfer areas on the heat sink. The oils in your skin can reduce the heat transfer capability of the thermal grease.

Prerequisites

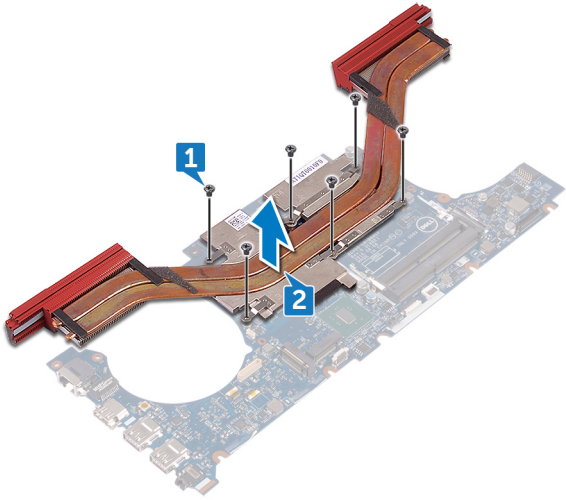
1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the memory modules.
5. Remove the solid-state drive.
6. Remove the wireless card.
7. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
8. Remove the fans.
9. Remove the system board.

Procedure

NOTE: The appearance of the heat sink on your computer may differ from the image shown in this chapter.

1. In sequential order (indicated on the heat-sink), remove the six screws (M2x3) that secure the heat sink to the system board.

2 Lift the heat sink off the system board.



Replacing the heat sink

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CAUTION: Incorrect alignment of the heat sink can damage the system board and processor.

NOTE: The original thermal grease can be reused if the original system board and heat sink are reinstalled together. If either the system board or the heat sink is replaced, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

Procedure

1. Align the screw holes on the heat sink with the screw holes on the system board.
2. In sequential order (indicated on the heat-sink), replace the six screws (M2x3) that secure the heat sink to the system board.

Post-requisites

1. Replace the system board.
2. Replace the fans.
3. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
4. Replace the wireless card.
5. Replace the solid-state drive.
6. Replace the memory modules.
7. Replace the rear cover.
8. Replace the battery.
9. Replace the base cover.

Removing the power-adapter port

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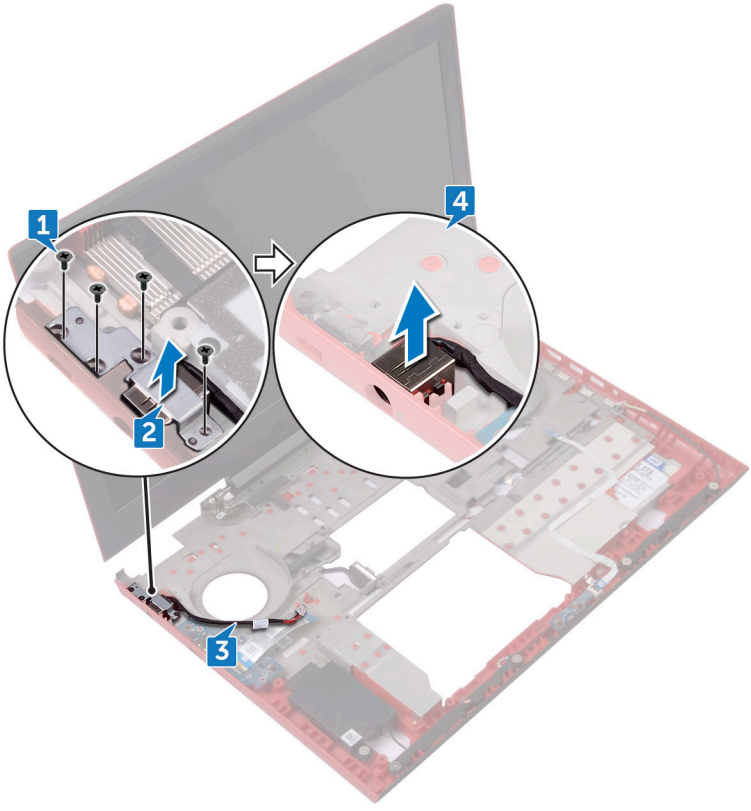
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
5. Remove the fans.
6. Remove the system board.

Procedure

1. Remove the four screws (M2x3) that secure the power-adapter port bracket to the computer base.
2. Lift the power-adapter port bracket off the computer base.
3. Remove the power-adapter cable from the routing guides on the computer base.

4 Lift the power-adapter port, along with its cable, off the computer base.



Replacing the power-adapter port

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Procedure

1. Place the power-adapter port into the slot on the computer base.
2. Align the screw holes on the power-adapter port bracket with the screw holes on the computer base.
3. Replace the four screws (M2x3) that secure the power-adapter port bracket to the computer base.
4. Route the power-adapter port cable through the routing guides on the computer base.
5. Connect the power-adapter port cable to the system board.

Post-requisites

1. Replace the system board.
2. Replace the fans.
3. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
4. Replace the rear cover.
5. Replace the base cover.
6. Replace the battery.

Removing the display assembly

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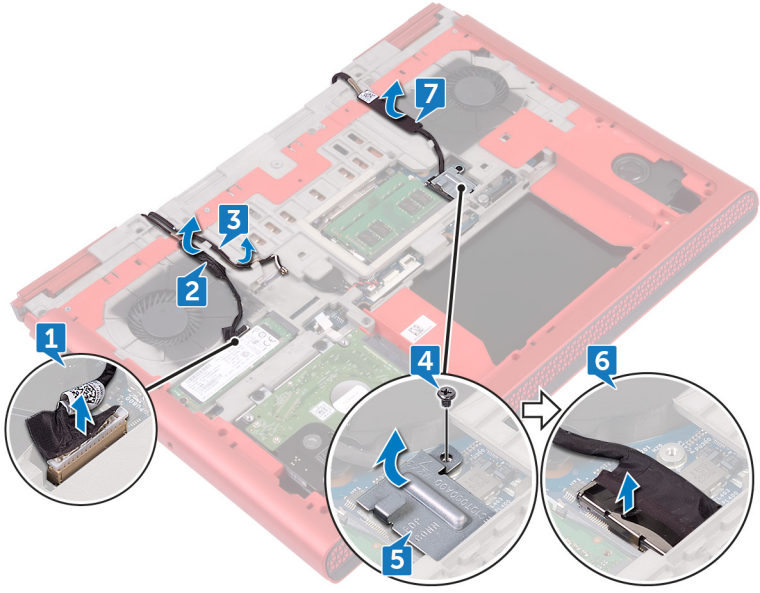
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".

Procedure

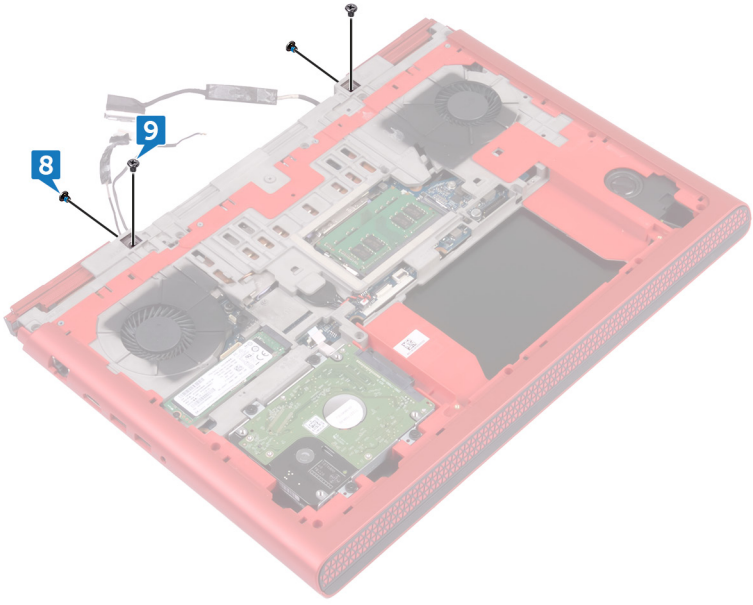
1. Using the pull-tab, disconnect the camera cable from the system board.
2. Peel off the camera cable from the computer base.
3. Note the antenna cables routing and remove the antenna cables from the routing guides on the computer base.
4. Remove the screw (M3x3) that secures the display-cable bracket to the system board.
5. Lift the display-cable bracket off the computer base.
6. Using the pull tab, disconnect the display cable from the system board.

7 Remove the display cable from the routing guides on the computer base and peel off the display cable from the computer base.



8 Remove the two screws (M2x3) that secure the display assembly to the computer base.

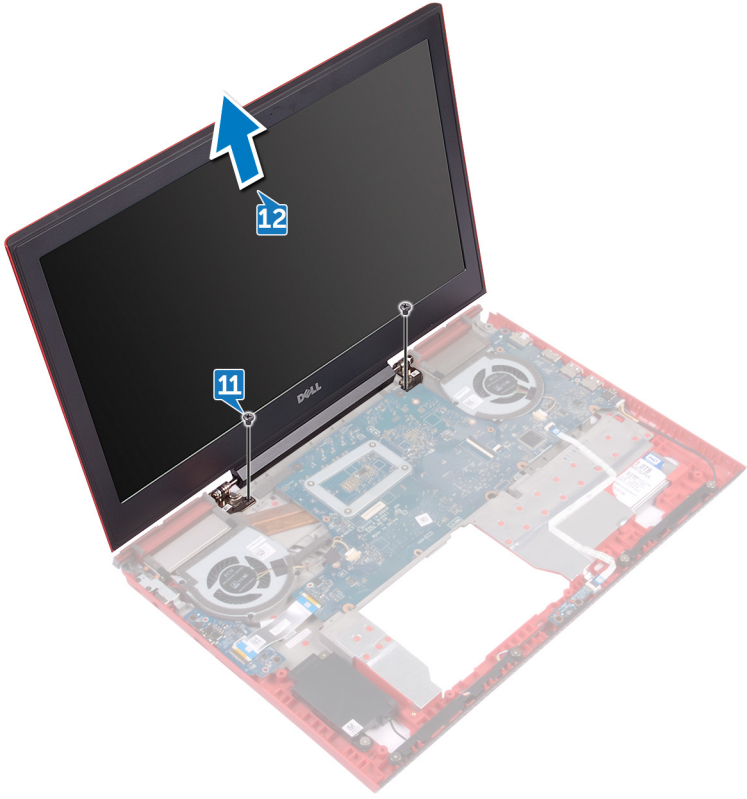
9 Remove the two screws (M2.5x5) that secure the display assembly to the computer base.



10 Turn the computer over and open the display.

11 Remove the two screws (M2.5x5) that secure the display assembly to the computer base.

12 Lift the display assembly off the computer base.



Replacing the display assembly

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Procedure

1. Align the screw holes on the display assembly with the screw holes on the computer base.
2. Replace the two screws (M2x2.5) that secure the display assembly to the computer base.
3. Close the display and turn the computer over.
4. Replace the two screws (M2x3) that secure the display assembly to the computer base.
5. Replace the two screws (M2.5x5) that secure the display assembly to the computer base.
6. Route the display cable through the routing guides on the computer base.
7. Adhere the display cable and the camera cable to the computer base.
8. Connect the display cable to the system board.
9. Align the screw hole on display-cable bracket with the screw hole on the computer base.
10. Replace the screw (M3x3) that secures the display-cable bracket to the computer base.
11. Route the antenna cables through the routing guides on the computer base.
12. Adhere the camera cable to the computer base.
13. Connect the camera cable to the system board.

Post-requisites

1. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
2. Replace the wireless card.

3 Replace the rear cover.
4 Replace the battery.
5 Replace the base cover.

Removing the display bezel

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

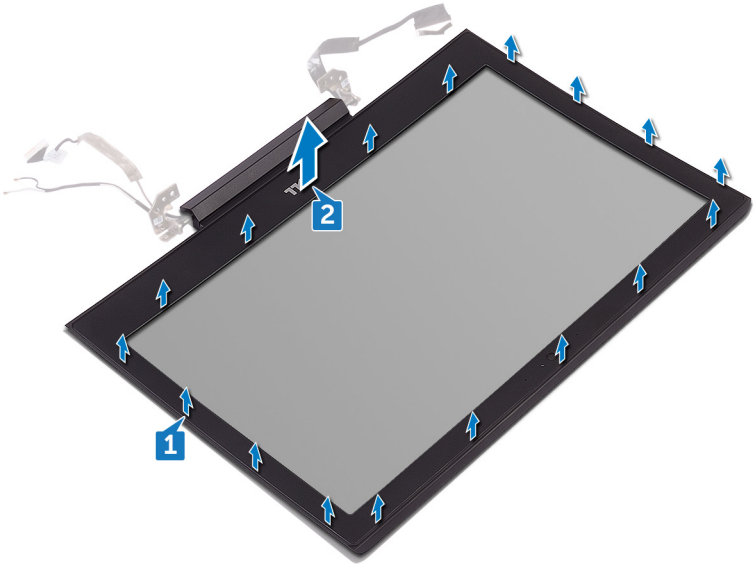
NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.

Procedure

1. Using your fingertips, gently pry up the outside edges of the display bezel.

2 Lift the display bezel off the display assembly.



Replacing the display bezel

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Procedure

Align the display bezel with the display back-cover, and gently snap the display bezel into place.

Post-requisites

1. Replace the display assembly.
2. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
3. Replace the wireless card.
4. Replace the rear cover.
5. Replace the battery.
6. Replace the base cover.

Removing the display hinges

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Prerequisites

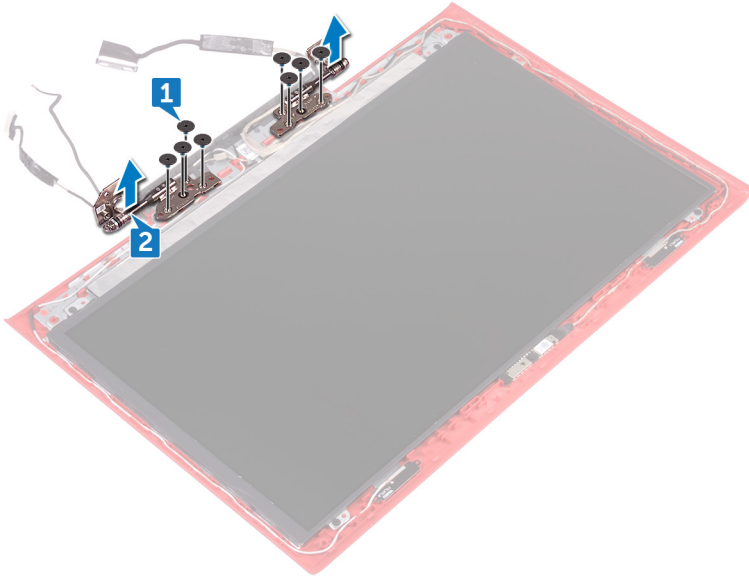
NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.
7. Remove the display bezel.

Procedure

1. Remove the eight screws (M2.5x2.5) that secure the display hinges to the display back-cover.

2 Lift the display hinges off the display back-cover.



Replacing the display hinges

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Procedure

1. Align the screw holes on the display hinges with the screw holes on the display back-cover.
2. Replace the eight screws (M2.5x2.5) that secure the display hinges to the display back-cover.

Post-requisites

1. Replace the display bezel.
2. Replace the display assembly.
3. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
4. Replace the wireless card.
5. Replace the rear cover.
6. Replace the battery.
7. Replace the base cover.

Removing the display panel

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Prerequisites

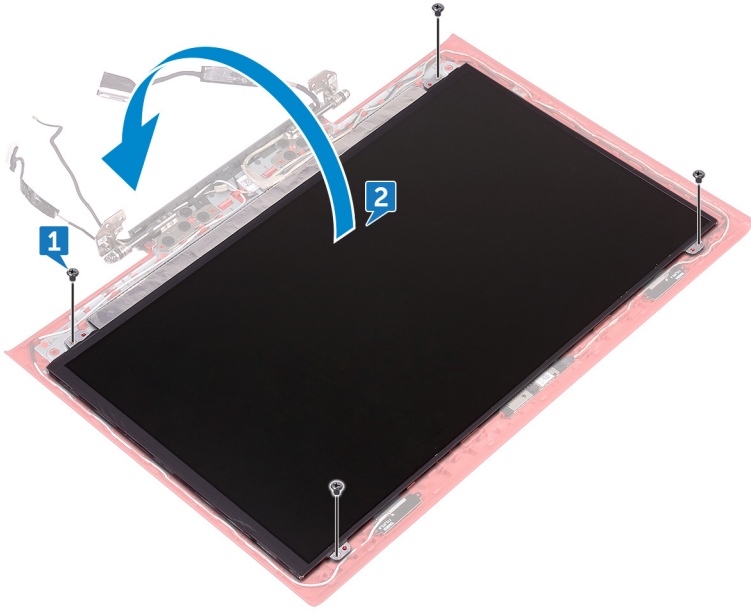
NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.
7. Remove the display bezel.
8. Remove the display hinges.

Procedure

1. Remove the four screws (M2x2.5) that secure the display panel to the display back-cover.

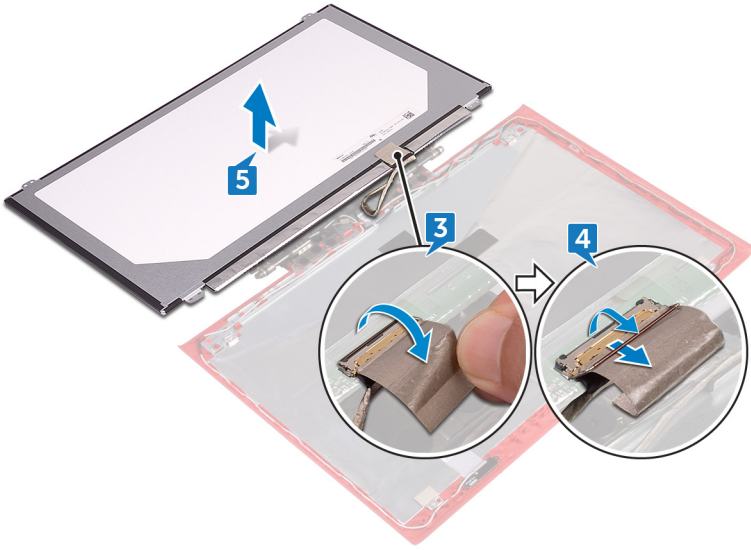
2 Gently lift the display panel and turn it over.



3 Peel off the tape that secures the display cable to the display panel.

4 Open the latch and disconnect the display cable from the display panel.

5 Lift the display panel away from the display back-cover.



Replacing the display panel

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Procedure

1. Slide the display cable into the connector on the display panel and close the latch to secure the cable.
2. Adhere the tape that secures the display cable to the display panel.
3. Turn the display panel over and gently place it on the display back-cover.
4. Align the screw holes on the display panel with the screw holes on the display back-cover.
5. Replace the four screws (M2x2.5) that secure the display panel to the display back-cover.

Post-requisites

1. Replace the display hinges.
2. Replace the display bezel.
3. Replace the display assembly.
4. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
5. Replace the wireless card.
6. Replace the rear cover.
7. Replace the battery.
8. Replace the base cover.

Removing the display cable

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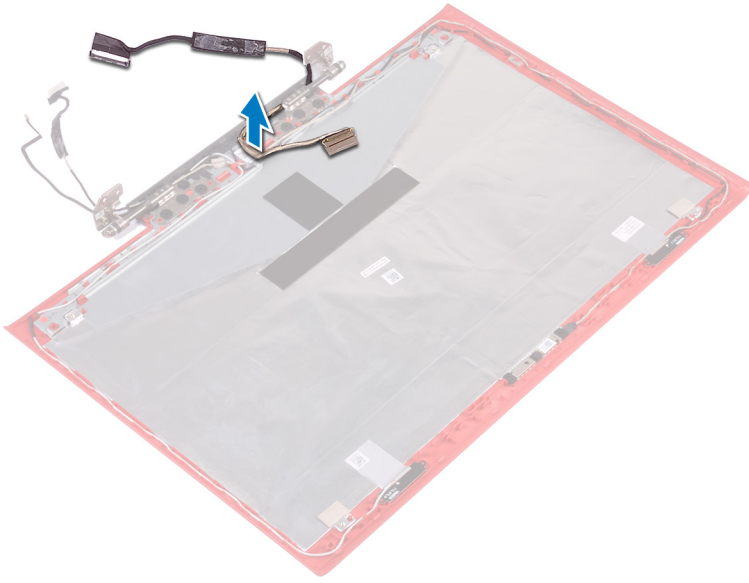
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.
7. Remove the display bezel.
8. Remove the display hinges.
9. Remove the display panel.

Procedure

Remove the display cable from the routing guides and peel it off from the display back-cover.



Replacing the display cable

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Procedure

Adhere and route the display cable according to the routing guides on the display back-cover.

Post-requisites

1. Replace the display panel.
2. Replace the display hinges.
3. Replace the display bezel.
4. Replace the display assembly.
5. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
6. Replace the wireless card.
7. Replace the rear cover.
8. Replace the battery.
9. Replace the base cover.

Removing the camera

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Prerequisites

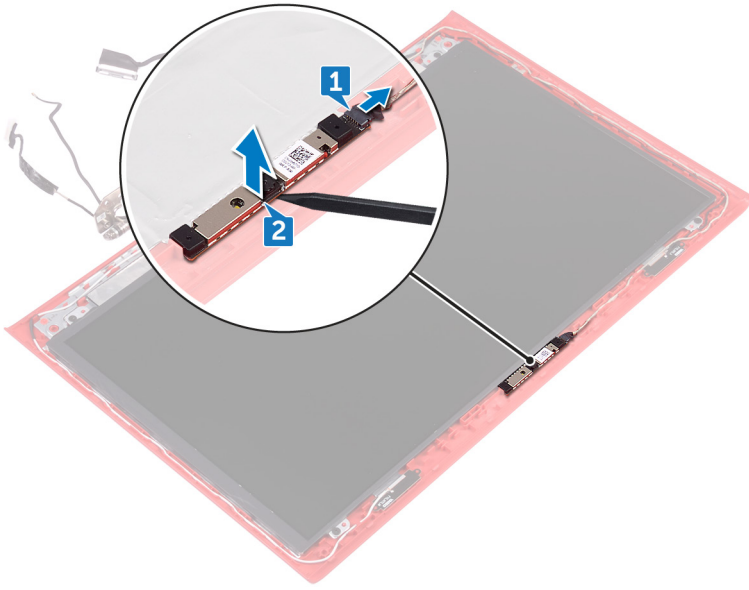
NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the base cover.
2. Remove the battery.
3. Remove the rear cover.
4. Remove the wireless card.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.
7. Remove the display bezel.

Procedure

1. Using the pull tab, disconnect the camera cable from the camera.

2 Using a plastic scribe, pry and lift the camera off the display back-cover.



Replacing the camera

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Procedure

1. Using the alignment posts, adhere the camera to the display back-cover.
2. Connect the camera cable to the camera.

Post-requisites

1. Replace the display bezel.
2. Replace the display assembly.
3. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
4. Replace the wireless card.
5. Replace the rear cover.
6. Replace the battery.
7. Replace the base cover.

Removing the display back-cover and antenna assembly

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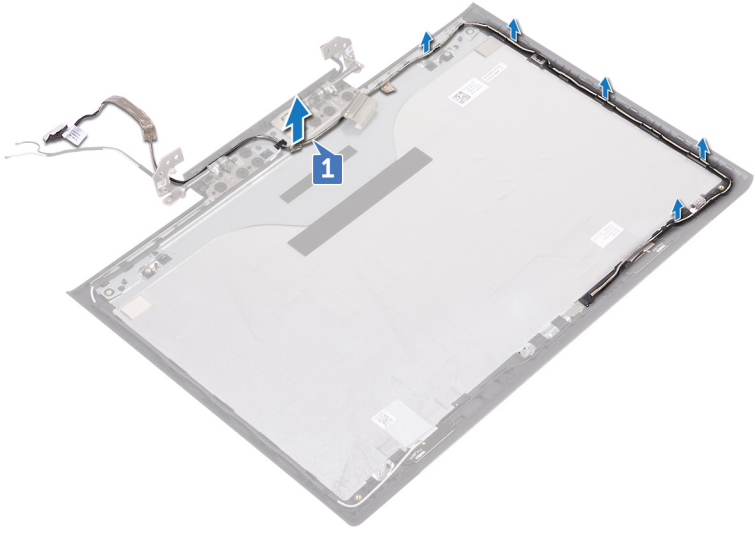
Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the rear cover.
5. Follow the procedure from step 1 to step 8 in "Removing the palm rest and keyboard assembly".
6. Remove the display assembly.
7. Remove the display bezel.
8. Remove the display hinges.
9. Remove the display panel.
10. Remove the display cable.
11. Remove the camera.

Procedure

1 Note the camera cable routing and remove the cable from the routing guides on the display back-cover and antenna assembly.



2 After performing the above step, we are left with the display back-cover and antenna assembly.

Replacing the display back-cover and antenna assembly

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Procedure

Place the display back-cover and antenna assembly on a flat surface.

Post-requisites

1. Replace the camera.
2. Replace the display cable.
3. Replace the display panel.
4. Replace the display hinges.
5. Replace the display bezel.
6. Replace the display assembly.
7. Follow the procedure from step 3 to step 9 in "Replacing the palm rest and keyboard assembly".
8. Replace the rear cover.
9. Replace the wireless card.
10. Replace the battery.
11. Replace the base cover.

Flashing the BIOS

You may need to flash (update) the BIOS when an update is available or when you replace the system board. To flash the BIOS:

1. Turn on your computer.
2. Go to www.dell.com/support.
3. Click **Product support**, enter the Service Tag of your computer, and then click **Submit**.

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click **Drivers & downloads → Find it myself**.
5. Select the operating system installed on your computer.
6. Scroll down the page and expand **BIOS**.
7. Click **Download** to download the latest version of the BIOS for your computer.
8. After the download is complete, navigate to the folder where you saved the BIOS update file.
9. Double-click the BIOS update file icon and follow the instructions on the screen.

Diagnostics

Power and battery-status light/ hard-drive activity light: Indicates the battery-charge status or the hard-drive activity.

NOTE: Press Fn+H to toggle this light between power and battery-status light and hard-drive activity light.

Hard-drive activity light

Turns on when the computer reads from or writes to the hard drive.

Power and battery-status light

Indicates the power and battery-charge status.

Solid white – Power adapter is connected and the battery has more than 5 percent charge.

Amber – Computer is running on battery and the battery has less than 5 percent charge.

Off

- Power adapter is connected and the battery is fully charged.
- Computer is running on battery and the battery has more than 5 percent charge.
- Computer is in sleep state, hibernation, or turned off.

The power and battery-status light blinks amber along with beep codes indicating failures.

For example, the power and battery-status light blinks amber two times followed by a pause, and then blinks white three times followed by a pause. This 2,3 pattern continues until the computer is turned off indicating no memory or RAM is detected.

The following table shows different light patterns and what they indicate.

Table 3. Diagnostics

Light Pattern	Problem description
2,1	CPU failure
2,2	System board: BIOS and ROM failure
2,3	No memory or RAM detected
2,4	Memory or RAM failure

Light Pattern	Problem description
2,5	Invalid memory installed
2,6	System board or chipset error
2,7	LCD failure
3,1	CMOS battery failure
3,2	PCI/video card failure
3,3	Recovery image not found
3,4	Recovery image found but invalid

The computer may emit a series of beeps during start-up if the errors or problems cannot be displayed. The repetitive beep codes help the user troubleshoot problems with the computer.

Camera status light: Indicates whether the camera is in use.

- Solid white – Camera is in use.
- Off – Camera is not in use.

Caps Lock status light: Indicates whether Caps Lock is enabled or disabled.

- Solid white – Caps Lock enabled.
- Off – Caps Lock disabled.

Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

Table 4. Self-help resources

Information about Dell products and services	www.dell.com
Dell Help & Support app	
Tips	
Contact Support	In Windows search, type `Help and Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on.	www.dell.com/support
Dell knowledge base articles for a variety of computer concerns.	1 Go to www.dell.com/support. 2 Type the subject or keyword in the **Search** box. 3 Click **Search** to retrieve the related articles.
Learn and know the following information about your product: • Product specifications • Operating system	See *Me and My Dell* at www.dell.com/support/manuals.

- Setting up and using your product
- Data backup
- Troubleshooting and diagnostics
- Factory and system restore
- BIOS information

To locate the *Me and My Dell* relevant to your product, identify your product through one of the following:

- Select **Detect Product**.
- Locate your product through the drop-down menu under **View Products**.
- Enter the **Service Tag number** or **Product ID** in the search bar.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

NOTE: Availability varies by country and product, and some services may not be available in your country.

NOTE: If you do not have an active internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.